



Ocean Observatories and UNOLS capabilities

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Benchmark: 2003 Chave Report

Assumptions:

10 Large Global buoys

10 Smaller Global buoys

3200 km of Regional cable with 26 nodes

15 long term Coastal sites

30 "pioneer" Coastal sites

Ship and ROV usage:

- Surveys
- Cable Laying (Chartered)
- Installation of science equipment
- Mooring deployment and servicing (largest moorings require charter for installation)
- Maintenance and sensor changes
- Related science (not included)

Vessel Needs (O&M) per year:

- UNOLS global class for Global moorings: 600 days (ROV required 75% of time)
- Commercial cable repair vessel (standby)
- UNOLS global class for Regional cabled system: 150 days (ROV required)
- UNOLS intermediate/regional/local for Coastal observatory: 330 days

UNOLS Global is the crunch!

- Equivalent to using Thompson and Revelle full-time
- Would require upgrades, e.g. heavier lift, fueling capability
- Inflexible scheduling

How Big Will the Observatory Be?

- Example: 10 vs. 20 Global moorings?
- Example: 8 vs. 26 Regional Cabled nodes?
- Very large impact on vessel requirements
- ORION/ESC is starting to develop an Implementation Plan, target completion: late summer 2005
- Input needed from scientists, engineers

Overall Planning Considerations

- Scientific demand
- Potential synergies
- Design and Installation costs
- Operations and Maintenance costs, including Cyberinfrastructure